



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,473	11/27/2006	Young Hoon Chang	3668S-3/NP	4336
27572	7590	05/13/2009		
HARNESS, DICKEY & PIERCE, P.L.C.			EXAMINER	
P.O. BOX 828			BOLOTIN, DMITRIY	
BLOOMFIELD HILLS, MI 48303				
		ART UNIT	PAPER NUMBER	
		2629		
MAIL DATE		DELIVERY MODE		
05/13/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/580,473

Applicant(s)

CHANG ET AL.

Examiner

Dmitriy Bolotin

Art Unit

2629

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-20 is/are rejected.
- 7) ☒ Claim(s) 1, 13, 21 and 22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 11/27/2006
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date: ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

It would be of great assistance to the Office if all incoming papers pertaining to a filed application carried the following items:

1. Application number (checked for accuracy, including series code and serial no.).
2. Group art unit number (copied from most recent Office communication).
3. Filing date.
4. Name of the examiner who prepared the most recent Office action.
5. Title of invention.
6. Confirmation number (See MPEP § 503).

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claim 11** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **claim 11**, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claims 1 – 5, 7, 11 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tutikawa (EP 1324570 A1) in view of Nomura et al. (US 5,881,299) and Kawamura (US 7,496,378).

As to **claim 1, claim 5** (dependent on 1) **and claim 20**. Tutikawa discloses a portable terminal having a dual display panel (as shown in fig. 6), comprising: a body (1a of fig. 6) having a plurality of function keys and number keys (keys 7 of fig. 6); a folder (1b of fig. 6) coupled to the body (1a of fig. 6) by hinges (11 of fig. 6) to be folded

and unfolded about the hinges [0015], and having on one surface thereof a main display (display 2 of fig. 6) panel and on the other surface thereof a sub display panel (display 5 of fig. 6) which is coupled to the folder by hinges (3 of fig. 6) to be folded and unfolded about the hinges [0015], the folder being capable of providing a single extended screen through cooperation of the main display panel and the sub display panel [0011]; and a display module for controlling the main display panel and the sub display panel such that the main display panel and the sub display panel are independently driven when the sub display panel is folded and are cooperatively driven to form the single extended screen when the sub display panel is unfolded [0011];

Tutikawa fails to disclose, the display module comprising: a main scan driver for sequentially selecting and scanning row lines of a main display panel; a main data driver for applying image data signals to column lines of the main display panel; a sub scan driver for sequentially selecting and scanning row lines of a sub display panel; a sub data driver for applying image data signals to column lines of the sub display panel; and a controller for controlling the drivers such that the main display panel and the sub display panel are independently driven or the main display panel and the sub display panel are cooperatively driven to form a single extended screen; the controller comprising: a window read/write circuit section for reading and writing window data from and to a main system of the portable terminal; a main video memory for storing main scan data signals and main image data signals for driving the main display panel; a sub video memory for storing sub scan data signals and sub image data signals for driving the sub display panel; a logical/physical mapping circuit section for logically or

physically mapping data transmitted between the main video memory and the sub video memory and the window read/write circuit section; an XY converting logic section for XY-converting and outputting the sub scan data signals and the sub image data signals stored in the sub video memory, in response to a signal from a flip sensor; a main scan/data interface section for transmitting the main scan data signals and the main image data signals received from the main video memory to the main scan driver and the main data driver; and a sub scan/data interface section for transmitting the sub scan data signals and the sub image data signals received from the XY converting logic section to the sub scan driver and the sub data driver.

In the same field of endeavor, Nomura discloses the display module comprising: a main scan driver for sequentially selecting and scanning row lines of a main display panel (driver 105d of fig. 8); a main data driver for applying image data signals to column lines of the main display panel (driver 105b of fig. 8); a sub scan driver for sequentially selecting and scanning row lines of a sub display panel (driver 105c of fig. 8); a sub data driver for applying image data signals to column lines of the sub display panel (driver 105b of fig. 8); and a controller (combination of controller 101, VRAM 102 and CPU 100 of fig. 8) for controlling the drivers such that the main display panel and the sub display panel are independently driven (col. 8, lines 50 – 55) or the main display panel and the sub display panel are cooperatively driven to form a single extended screen (col. 8, lines 55 – 61); the controller comprising: a window read/write circuit section for reading and writing window data from and to a main system of the portable terminal (CPU 100 of fig. 8); a main video memory for storing main scan data

signals and main image data signals for driving the main display panel (VRAM 102a of fig. 8); a sub video memory for storing sub scan data signals and sub image data signals for driving the sub display panel (VRAM 102b of fig. 8); a logical/physical mapping circuit (CPU 100 of fig. 8) section for logically or physically mapping data transmitted between the main video memory (VRAM 102a of fig. 8) and the sub video memory (VRAM 102b of fig. 8) and the window read/write circuit section (CPU 100 of fig. 8); an XY converting logic section (LCD controller 101 of fig. 8) for XY-converting and outputting the sub scan data signals (going to driver 105c) and the sub image data signals (going to driver 105b) stored in the sub video memory (VRAM 102b of fig. 8); a main scan/data interface section (a part of LCD controller 101 of fig. 8) for transmitting the main scan data signals and the main image data signals received from the main video memory (VRAM 102a of fig. 8) to the main scan driver (driver 105d through switch portion 101a of fig. 8) and the main data driver (driver 105c of fig. 8); and a sub scan/data interface section (a part of LCD controller 101 of fig. 8) for transmitting the sub scan data signals and the sub image data signals received from the XY converting logic section (LCD controller 101 of fig. 8) to the sub scan driver (driver 105c through switch portion 101a of fig. 8) and the sub data driver (driver 105c of fig. 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the portable terminal of Tutikawa by adding the display module disclosed by Nomura, so as to be able to control both display areas in accordance with the amount of information to be displayed in order to reduce power consumption (Nomura, col. 1, lines 54 – 58).

Tutikawa in view of Nomura fails to disclose the portable terminal, wherein the data is outputted in response to a signal from a flip sensor and a flip sensor sensing folded and unfolded states of the sub display panel.

In the same field of endeavor, Kawamura discloses the portable terminal, wherein the data is outputted in response to a signal from a flip sensor (movable display part opening and closing detecting unit 13 of fig. 7) and a flip sensor sensing folded and unfolded states of the sub display panel (col. 8, lines 5 – 21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the portable terminal of Tutikawa in view of Nomura by incorporating the flip sensor, so as to be able to save power and detect when to display extended image (Kawamura, col. 8, lines 5 – 16).

As to **claim 2** (dependent on 1), Tutikawa discloses the portable terminal (shown in fig. 6), wherein the folder (1b of fig. 6) provides the single extended screen [0011] having no substantial gap thereon (as shown in fig. 6), through cooperation of the main display panel (2 of fig. 6) and the sub display panel (5 of fig. 6).

As to **claim 3** (dependent on 1), Tutikawa discloses the portable terminal, wherein the main display panel (2 of fig. 6) and the sub display panel (5 of fig. 6) are formed to extend to an edge of the folder such that no substantial gap is created between the main display panel (2 of fig. 6) and the sub display panel (5 of fig. 6) when the sub display panel is unfolded (as shown in fig. 6).

As to **claim 4** (dependent on 1), Tutikawa discloses the portable terminal, but fails to disclose that the single extended screen comprises a window screen having an aspect ratio of 16:9.

However, it would have been obvious to one of ordinary skill at the time of the invention to modify the device of Tutikawa by arranging two displays so as to create display area of 16:9 aspect ratio, since such configuration is one of numerous configurations an artisan would find obvious for the purpose of accommodating a well known image standard (See Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459).

As to **claim 7** (dependent on 1), Tutikawa discloses the portable terminal, wherein an antenna (10 of fig. 6) of the portable terminal is installed to be positioned opposite to the hinges (3 of fig. 6) by which the sub display panel (5 of fig. 6) is coupled to the folder (1b of fig. 6).

As to **claim 11** (dependent on 1), Tutikawa discloses the portable terminal according to claim 1, wherein each of the main display panel and the sub display panel comprises a flat panel LCD display (Abstract).

6. **Claims 6 and 8 – 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tutikawa in view of Nomura and Kawamura and further in view of Macor (US 5,901,222).

As to **claim 6** (dependent on 1), **claim 8** (dependent on 1), **claim 9** (dependent on 8) and **claim 10** (dependent on 8), Tutikawa discloses the portable terminal, but Tutikawa in view of Nomura and Kawamura fails to disclose that at least one of text information including a translated dialogue and communication information of the portable terminal is displayed on a portion of the screen, that main icons configured on the main display panel and sub icons configured on the sub display panel are arranged in the same direction when the sub display panel is unfolded, a menu function is provided to the main icons by using one of an under bar, a square and a reverse so that a corresponding operation can be implemented and the sub icons have shapes which are symmetrical in both longitudinal and transverse directions so that expressional functionality of the sub icons is maintained when the sub display panel is unfolded.

In the same field of endeavor, Macor discloses a portable telecommunication device, wherein at least one of text information including a translated dialogue (message shown on display 126 of fig. 8) and communication information of the portable terminal (information shown on display 130 of fig. 8) is displayed on a portion of the screen (display 130 and 126 of fig. 8), main icons (152 of fig. 6) configured on the main display panel (130 of fig. 6) and sub icons (150 of fig. 6) configured on the sub display panel (126 of fig. 6) are arranged in the same direction when the sub display panel is unfolded (as shown in fig. 6), a menu function (edit icon 146 of fig. 6) is provided to the main icons (146 of fig. 6) by using a square (a square around icon 146 of fig. 6) so that a corresponding operation can be implemented and the sub icons (150 of fig. 6) have shapes which are symmetrical in both longitudinal and transverse

directions (a rectangle is inherently symmetric in both longitudinal and transverse directions) so that expressional functionality of the sub icons is maintained when the sub display panel is unfolded (display panel 126 of fig. 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Tutikawa in view of Nomura and Kawamura by providing graphical interface disclosed by Macor, so as to make the interface more ergonomic (Macor, col. 1, lines 45 – 50).

7. **Claims 14 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tutikawa.

As to **claim 14**, Tutikawa discloses a method for controlling display on a screen of a portable terminal having a body (1a of fig. 6) which possesses a plurality of function keys and number keys (keys 7 of fig. 6) and a folder (1b of fig. 6) which is coupled to the body (1a of fig. 6) by hinges (11 of fig. 6) to be folded and unfolded about the hinges [0015] and possesses on one surface thereof a main display panel (2 of fig. 6) and on the other surface thereof a sub display panel (5 of fig. 6) coupled to the folder by hinges (3 of fig. 6) to be folded and unfolded about the hinges [0015], the method comprising the steps of: controlling by a controller the main display panel and the sub display panel when the sub display panel is folded, such that the main display panel and the sub display panel are independently driven (inherent to any clam shell type portable

telephones); and controlling by the controller the main display panel and the sub display panel when the sub display panel is unfolded, such that the main display panel and the sub display panel are cooperatively driven to form a single extended screen having no substantial gap thereon [0011].

Tutikawa is silent about a method, wherein the single extended screen comprises a window screen having an aspect ratio of 16:9; and wherein, when assuming that the main display panel has a size of $X_m \times Y_m$ and the sub display panel has a size of $X_s \times Y_s$ and when considering an equation for constructing the window screen of 16:9, $(X_m + X_s) : Y_s = 16:9$, the window screen having the aspect ratio of 16:9 satisfies an inequality $(X_m + X_s) \geq 16Y_s/9$ ($X_m \geq X_s$ and $Y_m \geq Y_s$).

However, it would have been obvious to one of ordinary skill at the time of the invention to modify the device of Tutikawa by arranging two displays so as to create display area of 16:9 aspect ratio, since such configuration is one of numerous configurations an artisan would find obvious for the purpose of accommodating a well known image standard (See Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459).

As to **claim 15** (dependent on 14), Tutikawa discloses the method, wherein the main display panel (2 of fig. 6) and the sub display panel (5 of fig. 6) are formed to extend to an edge of the folder such that no substantial gap is created between the main display panel (2 of fig. 6) and the sub display panel (5 of fig. 6) when the sub display panel is unfolded (as shown in fig. 6) to form the single extended screen [0011].

8. **Claims 16 – 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tutikawa in view of Macor.

As to **claim 16** (dependent on 14), **claim 17** (dependent on 14), **claim 18** (dependent on 17) and **claim 19** (dependent on 17), Tutikawa discloses the method wherein the sub display panel (5 of fig. 6) is unfolded to form the single extended screen [0011]. However, Tutikawa fails to disclose the method wherein at least one of text information including a translated dialogue and communication information of the portable terminal is displayed on a portion of the single extended screen, wherein main icons configured on the main display panel and sub icons configured on the sub display panel are arranged in the same direction when the sub display panel is unfolded, wherein a menu function is provided to the main icons by using one of an under bar, a square and a reverse so that a corresponding operation can be implemented and wherein the sub icons have shapes which are symmetrical in both longitudinal and transverse directions so that expressional functionality of the sub icons is maintained when the sub display panel is unfolded.

In the same field of endeavor, Macor discloses a method wherein at least one of text information including a translated dialogue (message shown on display 126 of fig. 8) and communication information of the portable terminal (information shown on display 130 of fig. 8) is displayed on a portion of the single extended screen (display 130 and 126 of fig. 8), wherein main icons (152 of fig. 6) configured on the main display panel (130 of fig. 6) and sub icons (150 of fig. 6) configured on the sub display panel

(126 of fig. 6) are arranged in the same direction when the sub display panel is unfolded (as shown in fig. 6), wherein a menu function (edit icon 146 of fig. 6) is provided to the main icons (146 of fig. 6) by using a square a square around icon 146 of fig. 6) so that a corresponding operation can be implemented and wherein the sub icons (150 of fig. 6) have shapes which are symmetrical in both longitudinal and transverse directions (a rectangle is inherently symmetric in both longitudinal and transverse directions) so that expressional functionality of the sub icons is maintained when the sub display panel is unfolded (display panel 126 of fig. 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Tutikawa by providing graphical interface disclosed by Macor, so as to make the interface more ergonomic (Macor, col. 1, lines 45 – 50).

Allowable Subject Matter

9. **Claims 12, 13, 21 and 22** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. The following is a statement of reasons for the indication of allowable subject matter:

As to **claim 12** (dependent on 1), Tutikawa in view of Nomura and Kawamura fails to disclose “*The portable terminal, wherein the logical/physical mapping circuit*

section comprises: a subtracter for receiving a coordinate XL and a coordinate Xm ; an adder for receiving a coordinate YL and a coordinate Ym ; a first comparator for receiving the coordinate XL and a coordinate 0 ; a second comparator for receiving the coordinate XL and the coordinate Xm ; a third comparator for receiving the coordinate XL and a coordinate $Xm + Xs$; a logic combining section for receiving output signals from the first through third comparators; a first MUX for selecting one of the coordinate XL and an output signal from the subtracter in response to an output signal from the logic combining section and outputting the selected one as a coordinate XP ; and a second MUX for selecting one of the coordinate YL and an output signal from the adder in response to an output signal from the logic combining section and outputting the selected one as a coordinate YP ; wherein the coordinates (XL, YL) are coordinates on a window $W1$ of a logical display memory, the coordinates (Xm, Ym) are coordinates of the main display panel having a screen size of $Xm \times Ym$, the coordinates (Xs, Ys) are coordinates of the sub display panel $W2$ having a screen size of $Xs \times Ys$, and the coordinates (XP, YP) are coordinates of a physical video memory which correspond to the coordinates (XL, YL) on the window $W1$ of the logical display memory".

As to **claim 13** (dependent on 1), Tutikawa in view of Nomura and Kawamura fails to disclose "*The portable terminal, wherein the window read/write circuit section comprises: a first subtracter for receiving a coordinate Xe and a coordinate Xb ; a first register for storing an output signal of the first subtracter; a first adder for receiving an output signal of the first register and adding one by one; a second subtracter for receiving a coordinate Ye and a coordinate Yb ; a second register for storing an output*

signal of the second subtracter; a second adder for receiving an output signal of the second register and adding one by one; a multiplexer for selecting one of output signals from the first and second adders; a third register for storing an output signal of the multiplexer; a control logic part for receiving an output signal of the third register, a clock signal and a read/write command signal; a counter circuit part for receiving an output signal of the control logic part; a modifier for receiving output signals of the first register and the counter circuit part; a divider for receiving output signals of the first register and the counter circuit part; a third adder for receiving an output signal of the modifier and the coordinate X_b and generating the coordinate X_L ; and a fourth adder for receiving an output signal of the divider and the coordinate Y_b and generating the coordinate Y_L ; wherein the coordinates (X_b, Y_b) and (X_e, Y_e) are coordinates on a window of the logical display memory, the coordinates (X_L, Y_L) are coordinates on the window of the logical display memory, and inequalities $X_e > X_b$ and $Y_e > Y_b$ are satisfied".

As to **claim 21** (dependent on 20), Tutikawa in view of Nomura and Kawamura fails to disclose "The device, wherein the logical/physical mapping circuit section comprises: a subtracter for receiving a coordinate X_L and a coordinate X_m ; an adder for receiving a coordinate Y_L and a coordinate Y_m ; a first comparator for receiving the coordinate X_L and a coordinate 0; a second comparator for receiving the coordinate X_L and the coordinate X_m ; a third comparator for receiving the coordinate X_L and a coordinate $X_m + X_s$; a logic combining section for receiving output signals from the first through third comparators; a first MUX for selecting one of the coordinate X_L and an output signal from the subtracter in response to an output signal from the logic

combining section and outputting the selected one as a coordinate XP; and a second MUX for selecting one of the coordinate YL and an output signal from the adder in response to an output signal from the logic combining section and outputting the selected one as a coordinate YP; wherein the coordinates XL and YL are coordinates on a window W1 of a logical display memory, the coordinates Xm and Ym are coordinates of the main display panel having a screen size of $X_m \times Y_m$, the coordinate Xs is a coordinate of the sub display panel W2 having a screen size of $X_s \times Y_s$, and the coordinates XP and YP are coordinates of a physical video memory which correspond to the coordinates XL and YL on the window W1 of the logical display memory".

As to **claim 22** (dependent on 20), Tutikawa in view of Nomura and Kawamura fails to disclose *"The device, wherein the window read/write circuit section comprises: a first subtracter for receiving a coordinate Xe and a coordinate Xb; a first register for storing an output signal of the first subtracter; a first adder for receiving an output signal of the first register and adding one by one; a second subtracter for receiving a coordinate Ye and a coordinate Yb; a second register for storing an output signal of the second subtracter; a second adder for receiving an output signal of the second register and adding one by one; a multiplexer for selecting one of output signals from the first and second adders; a third register for storing an output signal of the multiplexer; a control logic part for receiving an output signal of the third register, a clock signal and a read/write command signal; a counter circuit part for receiving an output signal of the control logic part; a modifier for receiving output signals of the first register and the counter circuit part; a divider for receiving output signals of the first register and the*

counter circuit part; a third adder for receiving an output signal of the modifier and the coordinate X_b and generating the coordinate XL ; and a fourth adder for receiving an output signal of the divider and the coordinate Y_b and generating the coordinate YL ; wherein the coordinates X_b and Y_b and X_e and Y_e are coordinates on a window of the logical display memory, the coordinates XL and YL are coordinates on the window of the logical display memory, and inequalities $X_e > X_b$ and $Y_e > Y_b$ are satisfied".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitriy Bolotin whose telephone number is (571)270-5873. The examiner can normally be reached on Monday-Friday, 8:00 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571)272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. B./
Examiner, Art Unit 2629

/Amare Mengistu/
Supervisory Patent Examiner, Art Unit 2629